

A SIMPLIFIED DECISION SUPPORT APPROACH FOR EVALUATING WETLANDS ECOSYSTEM SERVICES

Marisa Mazzotta, Walter Berry, and Lisa Wainger

Abstract

State-level managers and environmental advocates often must justify their restoration actions in terms of tangible beneficial outcomes. Wetlands functional assessment tools (e.g., Wetland Evaluation Technique (WET), Habitat Evaluation Procedures (HEP), Hydrogeomorphic Method (HGM)) typically do not estimate ecosystem services and benefits explicitly. Neither the available wetlands functional assessment tools nor the tools available for environmental cost-benefit analyses are routinely used, because of their complex data requirements. In some cases, comprehensive approaches that address the inherent complexity of wetlands are needed, but there are many situations where a simplified approach can facilitate communication and decision making.

We present a simplified approach to evaluating ecosystem services and benefits provided by freshwater wetlands restoration which incorporates a functional wetlands assessment methodology initially developed for state managers. Our approach can be applied using readily available environmental and socioeconomic data. Minimal field data are required. We demonstrate how this approach fits into a general framework for combining ecological and economic models to link ecological change to changes in human well-being, and we demonstrate its application using a case study of freshwater wetlands in Rhode Island.